

FOLIO

Scholarship Established to Honor Henry Kreisel

"People nowadays are suspicious of heroes. And perhaps rightly so. Too many heroes have, like Humpty Dumpty, had a great fall. There have been too many false Messiahs in our time. Still, a society does need some people who can be rightly admired." Henry Kreisel, Vice-President (Academic)
Report to Convocation, May 1974

"Knowing Henry Kreisel has been a rare and special privilege. My life, as all those he has touched, is richer and better for having known him." So spoke Eli Mandel on the evening of Friday, 29 October as part of a special "Tribute to Henry Kreisel," a 75th Anniversary "Celebration" sponsored jointly by the Department of English and the Canadian Studies Program (see *Folio*, 28 October). His words reflect the feeling of hundreds of University faculty and students who joined together to honor Henry Kreisel, one of the most "rightly admired" academics and administrators in the University's recent history.

Ted Blodgett, Chairman of Comparative Literature, called the evening an affectionate roast. And it was that; but it was more than that. For it was an evening, with all its laughter and all its surprises, that was deeply serious as friends and colleagues of Dr. Kreisel's gathered to share reflections and recollections that, taken together, painted a picture of Henry Kreisel as writer, teacher, critic, administrator, and very special friend to the people of The University of Alberta.

Henry Beissel, notorious for his role as a political activist in the 1960s, praised Dr. Kreisel for standing by his colleagues in a time of confrontation and embroilment. "When all is said and done," he reflected, "it is the



Henry Beissel (right) shares a light moment with Henry Kreisel at the recent Tribute while Eli Mandel (left) and Robin Mathews reminisce.

sheer and total humanity of the man that has set him apart."

Robin "Danny" Mathews, another colleague from those days of turmoil, praised Dr. Kreisel for his deep commitment to the culture of Alberta. "He had the ability to build anew, to liberate, to construct, and to humanize. He can do that to this day, and I hope that for the sake of Alberta's future, he will continue to do so for years to come."

A highlight of the evening tribute was the announcement by President Horowitz of the establishment of the Henry Kreisel Scholarship in Canadian Literature. Calling the scholarship an "imaginative way of recognizing the many contributions of Henry Kreisel," the President went on to reflect on the sensitive and sympathetic way in which Dr. Kreisel carried out his various administrative roles, particularly his five-year term (1970-75) as Vice-President (Academic).

The scholarship, to be awarded annually to "any student in Canada entering graduate studies in Canadian Literature . . . at The University of Alberta," is a rare and fitting tribute: rare because it marks, according to Larry Henderson, Student Awards Officer, one of the few times that a scholarship has ever been named after someone still actively involved in the life of the University; and fitting because Dr. Kreisel is widely recognized as the prime-mover behind the establishment and growth of undergraduate and graduate programs in Canadian Literature at this University.

Dr. Kreisel, clearly moved by the events of the special tribute, said he was most touched by the establishment (unbeknownst to him) of the graduate scholarship. "My greatest involvement has always been with students," he said. "The scholarship is a means of carrying out the tradition that I have tried to

establish in my years at The University of Alberta." A fitting finale to the evening was a reading by Dr. Kreisel of two of his best known short stories, *The Broken Globe* and *The Travelling Nude*.

It was, in every sense, an evening of tribute. Gordon Peacock, Professor of Drama and long-time friend of Dr. Kreisel, sums up: "No toasts, no eulogies, just a simple 'thank you, Henry, for being the man you are.'"

(Anyone interested in contributing to the Henry Kreisel Scholarship in Canadian Literature can do so by contacting the Student Awards Office, 252 Athabasca Hall, telephone 432-3221.) □

Inside:

The history of the Department of Mathematics is held up to the looking glass.

Of Shūichi Katō's Visit to the University

In the two weeks at the end of October and beginning of November, campus life was enriched by a series of lectures given by Shūichi Katō, Japan's prominent scholar, author, and critic, whose name is on the list of Japan's thirty most important personalities, according to a recently conducted poll.

Dr. Katō's stay as a Distinguished Visitor was made possible under the initiative of the Department of East Asian Languages and Literatures, supported by the University Endowment Fund for the Future and co-sponsored by the Departments of Anthropology, Comparative Literature, History, Political Science, Religious Studies, and Sociology.

Dr. Katō's remarkable knowledge on a wide range of subjects was evident in the themes of his five lectures: "Time and Space in Japan;" "Japan: Where does it go from here?;" "Japanese society through some recent best-sellers;" "Economic dynamism and political immobilism;" and "On Japanese aesthetics: Chinese influence and its 'Japanization.'" In all these lectures, which dealt primarily with the Japanese experience, the audience was overwhelmed by the speaker's ability to draw at ease upon similar or

contrasting examples from other cultures, be they North American, English, continental European, or Chinese. The combination of his perceptive analysis of the Japanese experience and his thorough knowledge and sensitive interpretation of other cultures was indeed an intellectual thrill to his audience. His analysis of the uniqueness and universality of Japanese culture, economics, and politics in turn invited us to interpret our own Canadian culture in new ways.

Throughout his lectures, Dr. Katō directly or indirectly made an appeal to some major world-wide issues. He defended a humanistic approach as a countercheck against the current one-sided dominance of technology, which has been displayed in the arms race, or increasing crimes and violence in big, industrialized cities. With regard to the international trade friction, he argued for a solution based upon a long-range view rather than upon short-term profit. An inflexible protectionist policy towards Japanese-made automobiles in the American market, for example, could leave Japan with no alternative but to resort to arms production for export instead. As the historical lesson about the conditions that led imperial Japan

to embark upon a desperate aggressive war still remains vivid to many of us, the situation will not depend upon Japan or any country alone, but will also depend upon the ability of concerned parties to learn from history.

The visit of Dr. Katō to the University was a great success and added intellectual stimulation to campus life. This kind of cultural

exchange was particularly meaningful in view of the fact that today Japan has become Canada and Alberta's second largest trading partner and the growing interest in Japan has resulted in an increasing demand for information about Japan, not only in trade and commerce, but also about its people and culture.* □

* These impressions of Dr. Katō's visit were recorded by Sinh Vinh, Department of History.

McDonalds Supports Pediatric Cardiology

McDonalds Restaurants of Canada will donate the Edmonton proceeds from the sale of its 1983 Ronald McDonald Colouring Calendar to the Heritage Pediatric Cardiology Program at The University of Alberta. The money will enable the program to enhance its services by purchasing an essential piece of equipment needed for the improvement of health care given to babies and children with heart disease.

Currently, program specialists rely

on the echocardiogram machine as one of the methods in evaluating possible heart disease. However, this piece of equipment provides only a moving picture of the heart which allows doctors to evaluate its structure and how well it functions. The new apparatus, the video review station, will take this information even further. It is attached to the echocardiogram and will provide doctors with an analysis of the moving picture of the heart. This procedure is painless and does not involve x-rays, thus such an analysis will enable specialists, in many instances, to avoid more painful, complex, and costly procedures. The video review station will be particularly helpful in the case of critically ill babies where additional painful procedures are not well tolerated, but where a means of assessing and following their hearts' functions is necessary in their treatment.

Every year more than two thousand babies and children from Alberta, Saskatchewan, northern British Columbia, and western Northwest Territories benefit from the program, which was established by the provincial government in 1979. In the past, there has been no analysis of the number of children with heart disease and the program is in the process of establishing a central computerized data system which should ascertain frequency, incidence, and distribution of heart disease among babies and children in Alberta. □

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Passage to India

Garth Stevenson of the Department of Political Science has been chosen by the Shastri Indo-Canadian Institute, Canadian Studies Exchange Programme, to travel to India in February of 1983. One political scientist and one economist have been chosen from Canada by the Institute.

Dr. Stevenson's book, *Unfulfilled Union: Canadian Federalism and National Unity*, a second edition, has just been published by Gage Publishing of Toronto.

This newly developed programme is aimed at improving the level of knowledge and understanding of Canada in India. Canadian studies scholars in various fields are sent to India to lecture in Indian universities, and to make contact with Indian colleagues and institutions. Scholars

from India wishing to pursue interests in the area of Canadian studies are brought to Canadian universities.

The Shastri Indo-Canadian Institute was formally established in 1968 by joint announcement of the Governments of India and Canada to enhance mutual understanding between our two countries. Named in honor of the late Prime Minister of India, Lal Bahadur Shastri, the Institute represents a unique educational enterprise. The Institute, with support of the Canadian and Indian governments, endeavors to educate Canadians to an awareness of the riches of India's past and the challenges of its developing present, and through its Canadian Studies Programme to promote study and knowledge of Canada in India. □

Writers Gather for Third in "Celebrations" Series

Four of the University's most distinguished English graduates will gather on campus next weekend to explore the world of two of its most distinguished faculty. W.O. Mitchell, Robert Kroetsch, Lovat Dickson, and Rudy Wiebe will take part in a two-day celebration which takes as its theme "The Legacy of E.K. Broadus and F.M. Salter." This is the third in a series of 75th anniversary "Celebrations" sponsored jointly by the Department of English and the Canadian Studies Program.

E.K. Broadus was first head (1908 to 1936) of the University's Department of English. F.M. Salter, who first joined the department in 1922, was its head from 1950 to 1953. Both men were highly respected by staff and students alike and both had an important influence on hundreds of students within their department, perhaps most particularly those studying creative writing. (See Department of English, 1908-1982, *Folio*, 30 September).

The four major participants in the weekend "Celebration" all studied

under either Broadus or Salter. And all have become, since then, widely acclaimed writers in their own right.

W.O. Mitchell, author of such famous favorites as *Jake and the Kid* and *Who Has Seen the Wind*, taught creative writing at this University in 1971-72. Currently writer-in-residence at the University of Windsor, he held that same position at both the University of Toronto and the University of Calgary.

Robert Kroetsch, a native of Heisler, Alberta, who is perhaps best known for his award winning novel *The Studhorse Man*, is currently Professor of English Graduate Studies at the University of Manitoba in Winnipeg.

Lovat "Rache" Dickson, author of *The Ante-room: Early Stages in a Literary life* and *Grey Owl: Man of the Wilderness*, taught at The University of Alberta before going to England where he founded his own publishing house and later became a director of Macmillans, London. Now retired, he lives in Toronto.

Rudy Wiebe, who has taught

English and creative writing at this University since 1967, is well-known to the University and Edmonton community. Author of numerous major works including *The Scorched Wood People*, *Peace Shall Destroy Many* and the award winning *Temptations of Big Bear*, Professor Wiebe is described by his long-time friend Robert Kroetsch as a true "writer's writer."

The "Celebrations" will begin at noon on Friday, 3 December, with readings by the four participants. Friday evening will feature

reminiscences and talks by the four who will be joined by George Baldwin, Vice-President (Academic) and former Chairman of English, and James Black, Chairman of the Department of English at the University of Calgary and a former student of Salter's. On Saturday afternoon, a panel discussion and "meet-the-authors" session will conclude the weekend events. Full details of times and places of the various "Celebrations" events will be listed in *Coming Events* next week. □

Dinner Party on Faculty of Extension Menu

Judy Chicago's controversial exhibition "The Dinner Party," which celebrates women throughout history, will be on display at the Glenbow Museum in Calgary for twelve weeks beginning 3 December.

In recognition of the importance of this display, described by Chicago as "a reinterpretation of the last supper from the point of view of those who had been doing the cooking throughout history," the University's Faculty of Extension, in association with the Ring House Gallery, is offering two excursions to "The Dinner Party" exhibition.

In preparation for the gallery visit, noted artist and educator Cherie Moses will present an illustrated lecture examining the philosophy and works of the artist, Judy Chicago. The

lectures, to be held on Thursday, 9 December, and again on Friday, 14 January, will take place in 2-115 Education North beginning at 7 p.m.

The day-long field trips to the Glenbow will depart (via chartered bus) from the east side of Corbett Hall at 8 a.m. sharp on Saturday, 11 December and Saturday, 15 January. The excursions will leave Calgary at 4 p.m., returning to campus by 7:30 in the evening. (Participants in the field trips may leave their cars in "G" lot, south of Corbett Hall, free of charge.)

Registration for "The Dinner Party" excursion is \$45 and there is a limited registration. More information may be obtained by contacting Nancy Misener at 432-3034 or Molly McDonald at 432-5818. □

Skate Softly and Carry a Big Stick

Sharpen your blades and tape your sticks, ladies and gentlemen . . . "over 35" hockey has arrived on campus!

In an effort to involve more faculty and staff in its campus recreation program, the Department of Athletic Services has established a new hockey league which will offer "a brand of hockey suitable to the abilities and physical fitness levels" of the over 35 crowd.

"Over 35" hockey, which will run from 6 January 1983 to 17 March, will follow normal hockey rules with one major difference: there will be *absolutely no hitting!*

The new league is open to all members of AASUA who are 35 or over; all NASA members 35 or over possessing a Faculty of Physical Education and Recreation Privilege Card; and all full-time students 35 or over (that is, if there are any!). The deadline date for signing up for "Over 35" is Thursday, 9 December and, while team entries are preferred, individuals can sign up and will be

placed on the appropriate team. A maximum of six teams will be established and twenty people must be on a team list before the entry will be accepted (I.D. numbers or privilege card numbers must accompany names). A refundable deposit of \$50 must also accompany each team entry.

"Over 35" hockey will be played on Mondays, Tuesdays, Wednesdays, and Thursdays between the hours of 7 p.m. and midnight: each team will play an hour-long game on an average of once a week on one of these nights. All equipment except skates and sticks will be supplied and can be drawn from the ice arena hockey equipment room one-half hour prior to game time.

So don't delay . . . sign up now. Glen Sather may be watching! More information on the "over 35" hockey league may be obtained by contacting Hugh Hoyles, Campus Recreation Coordinator, telephone 432-2408. □

James Neelley, 1920 - 1982

James N. Neelley, former Chairman of the Department of Speech Pathology and Audiology, passed away on 12 November 1982. He had been on disability leave from the University for the past two years. Dr. Neelley came to The University of Alberta in 1977 from the University of Kansas where he had been Chairman of the Division of Speech Pathology and Audiology for several years.

He was productive in a variety of professional areas during his career

including stuttering, speech science, and, most recently, communication problems of the geriatric population.

He will be missed by his friends and professional colleagues across Canada and the United States. Dr. Neelley is survived by his three children and his wife Louise Meikle-Neelley of the Department of Speech Pathology and Audiology at the University of Alberta Hospital. Donations can be made to the Alberta Lung Association in his memory. □

William Scott Hamilton, 1893-1982

William Scott Hamilton, Dean of the Faculty of Dentistry from 1944 to 1958, died Sunday, 31 October, 1982 at the age of 89.

Dr. Hamilton was born in Barrie, Ontario, on 6 June 1893 and obtained his early schooling in Belleville, Ontario.

Following service with the Canadian Field Artillery in the First

World War he entered upon his dental career at The University of Alberta and the University of Toronto, graduating with a Doctor of Dental Surgery degree in 1923.

Dr. Hamilton returned to Edmonton and joined the staff of the School of Dentistry in 1925. He was appointed Director of the School of Dentistry, University of Alberta, in

1942 and became the first Dean of Dentistry when the School became a Faculty in 1944. He served as Dean of Dentistry for fourteen years, retiring in 1958. He was awarded an honorary LLD degree by The University of Alberta in 1977.

Upon leaving The University of Alberta, he continued to practise as an oral surgeon in Edmonton until his retirement in 1976.

He was very active in the dental profession and was a member of numerous professional societies. He was Past President, Edmonton and District Dental Society; Fellow of the Royal College of Dentists, Canada; Fellow of the American College of Dentists; Fellow of the Royal College of Surgeons of England; Fellow of the International College of Dentists;

Member of the American Society of Oral Surgeons; Honorary member of the Canadian Dental Association; Honorary member of the Canadian Society of Oral Surgeons; and a member of the Masonic Lodge, Rotary Club, and Robbie Burns Club.

Dr. Hamilton is survived by one son, Jack Hamilton of Sidney, B.C.; one daughter, Betty Jean Baldwin of Edmonton; and seven grandchildren.

In recognition of his outstanding contribution as an oral surgeon and Dean of the Faculty of Dentistry, the Dr. W. Scott Hamilton Scholarship has been initiated. Contributions are invited; make cheques out to the Dr. W. Scott Hamilton Scholarship Fund, c/o Faculty of Dentistry, The University of Alberta. Tax receipts will be issued. □

J. Dewey Soper, 1893 -1982

J. Dewey Soper, hailed by many as one of the last of Canada's great modern-day explorers, died recently at the age of 89.

Dr. Soper, explorer, scientist, naturalist, and writer, had a longstanding association with The University of Alberta, dating back to the early 1920s and his days as a student of zoology and biology. After graduation (1923), he went to work as a naturalist for the federal government. His work took him to the Arctic, where he led numerous expeditions during the ensuing years.

The first white man to cross Baffin Island and return (1926), Dr. Soper wrote numerous scientific articles, published two books (*Mammals of Alberta* and *Arctic Recollections*), and collected more than 10,000 scientific specimens of mammals and birds (many of which are now housed in the University's Museum of Zoology). In addition, many of his

illustrations and watercolors have been published in articles and books, and a collection of his arctic paintings is in the custody of the Arctic Institute of North America.

In recognition of his explorations in the north, the Geographic Board of Canada gave his name to Soper River, Lake Harbour, Hudson Strait (1930), and Soper Highlands, near Nettilling Lake, Baffin Island (1932). In 1957, a 5,500 square kilometre bird sanctuary located at Bowman Bay, Baffin Island, was named the Dewey Soper Bird Sanctuary. It was here in 1929 that he discovered the breeding grounds of the Blue Goose (the Blue Goose had been a mystery to naturalists prior to that date).

In 1960, Dr. Soper received an honorary Doctor of Laws, *honoris causa*, from The University of Alberta and, from 1961 to 1970, he was an honorary research associate in the Department of Zoology. □

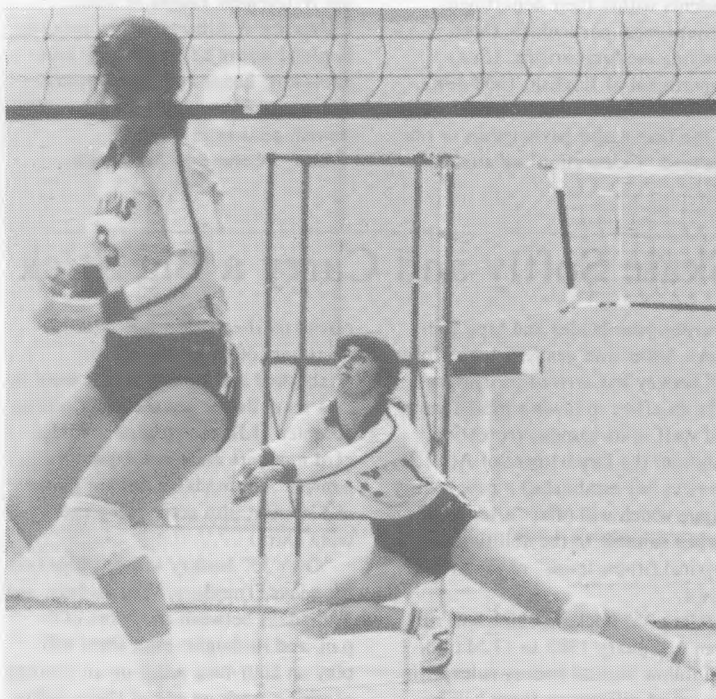
John W. Kebabian to Visit as AHFMR Visiting Lecturer

The Departments of Zoology and Pharmacology are pleased to host the visit on 30 November of John W. Kebabian, Chief of the Biochemical Neuropharmacology Section (NINCDS), Bethesda, Maryland. Dr. Kebabian is a young scientist who has gained outstanding international recognition for his contributions to the molecular pharmacology of neurotransmitter sensitive adenylate cyclases in the central and peripheral nervous system. His suggestion in 1979 that there are at least two categories of dopamine receptor has

already gained universal acceptance.

Dr. Kebabian will deliver a seminar on 30 November at 4 p.m. in M141 Biosciences Building, entitled: "Biomedical and physiological studies of the β -adrenoceptor and D_2 dopamine receptor in the intermediate lobe of the rat pituitary gland."

For further information on Dr. Kebabian's visit please contact W. R. Kaufman, Department of Zoology (432-4403), or Hans Baer, Department of Pharmacology (432-3414). □



The 19th Annual North-Am Volleyball Tournament will be held on campus this weekend. Hosted by the Golden Bears and Pandas, the three-day tournament will feature a roster of thirty-two teams (16 men's and 16 women's) including university, college and senior teams from Alberta and other western provinces. The matches, which will be held in the Main Gym, the West Gym, and the Education Gym, are being used by the National team to prepare for the Canada Cup of Volleyball to be held at Varsity (Main) Gym from 29 November to 4 December. The Canada Cup is a pre-Universiade '83 event that features the men's and women's national teams from Canada, Japan, and the United States. Games will be played from 6 to 10 p.m. on Friday, and from 8 a.m. to 9 p.m. on Saturday. The Women's Final will be played at 2 p.m. on Sunday, and the Men's Final will follow at 3 p.m.

The Department of Mathematics (1908-1982)

Mathematician¹

*In midair somewhere
he lays an axiomatic floor.
On it he sets a hypothetical plank
on which he raises a logical ladder
which he proceeds to climb.*

*There is risk, suspense and drama:
any loose rung, any misstep fatal.
At the proper confluence of space and time
he steps off onto a higher platform
with a broader panorama.*

*The whole thing is fabrication.
But so was Creation.*

Katharine O'Brien

Somewhere, sometime, everyone who has the right to call himself a mathematician has laid an axiomatic floor, for otherwise he has done no mathematics. The people of this story would all have felt a kinship to Katharine O'Brien.

The faculty of the Department of Mathematics has expanded from one man, Muir Edwards in 1908, to the present fifty-four full-time members. In that time, the constituency served by the University has evolved from an agriculture-based, pioneer community

to the present multifaceted society. The mathematical requirements of the constituency have also changed. Perhaps you will grant me a few minutes to recount some of the events of those years, to introduce some of the distinguished men who have attended to your mathematical needs, and to tell you how a diversity of research efforts and accomplishments have come to complement our traditional teaching role.

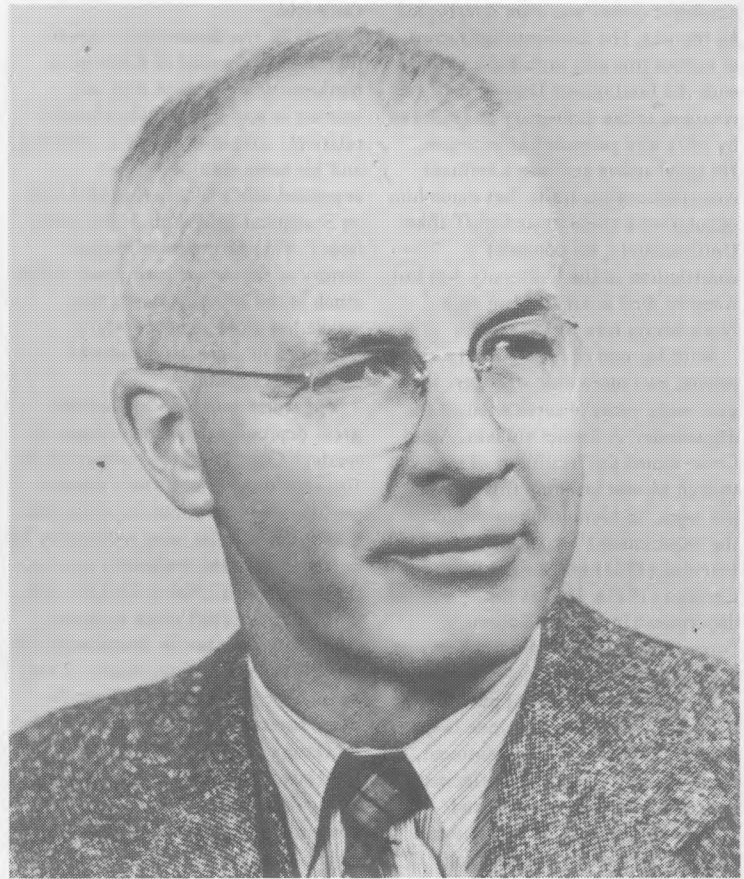
The seventy-five year history of the department can be divided in a natural way into three eras by the years 1947 and 1961. The first era coincides with the tenure of Ernest Sheldon as head of the department, and is characterized by the implementation of Henry Marshall Tory's vision of a University devoted to excellence in the provision of a general, post-secondary education to the young people of Alberta. By 1947 however, technical developments

generated by the Second World War were changing society; the University responded by developing courses to prepare its graduates to cope with this more complex way of life. Sheldon was succeeded by John Campbell (1947-54) and E. S. (Frank) Keeping (1954-61) who guided the department through a time of dramatic growth. A net increase of more than one member per year during this period brought the number of faculty members to twenty-three in 1962.

The beginning of the third stage was marked by the award of a PhD degree to S. G. Mohanti in 1961 for a thesis in Statistics, supervised by T. V. Narayana. Since then, research has become an increasingly important part of a department member's responsibilities. For example, in the three academic years ending in June 1980, six books were published, 197 invited lectures were presented, and 293 papers were published in refereed



Ernest Sheldon



John Campbell

journals by members of the department. The American Mathematical Society has informed the department that this publication record places The University of Alberta among the top ten percent of North American universities holding institutional membership in the AMS. The administration of the department

during these years has been conducted by Max Wyman (1961-63), Leo Moser (1963), Lloyd Dulmage (1964-6), Leo Moser (1966), John McGregor (1966-70), Waleed Al-Salam (1970-71), Sudish Ghurye (1972-76), Amram Meir (1976), Murray Klamkin (1976-81), and at present by Jack Macki.

The Early Years

*Our knowledge is made up of the stories that must be told in the language that we know. (Even mathematics is a "language" that states propositions and tells stories. It's a very elaborate form of "play" language. That's why it's such fun for those who speak it well.)*²

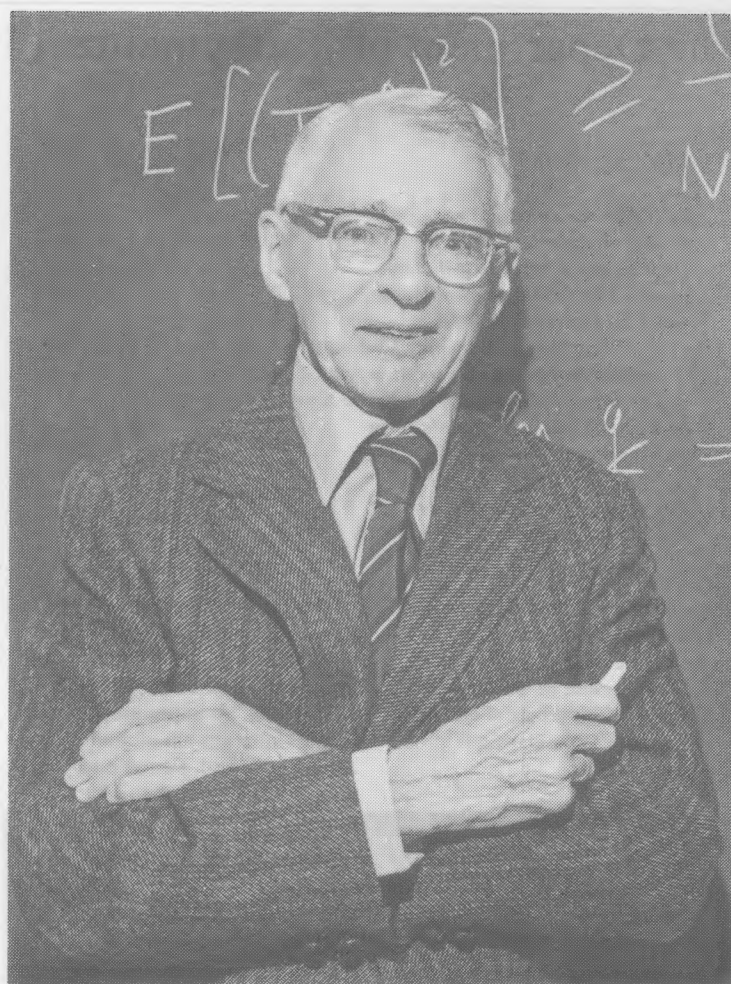
During the earliest years, Tory assisted with the teaching of mathematics. In 1910, he appointed Sheldon as professor and head of the department. Sheldon was an exemplary professor of his day who gave willingly of his time to advise and direct students, and he was well remembered by generations of students for presenting interesting and amusing lectures. In 1913, S. Killam was appointed as the second full-time instructor in the department, but his academic career was soon interrupted by the war. His distinguished record of service overseas included a stint with the Intelligence Department. He returned to the University in 1919 and by 1921 was promoted to professor. He loved sports and was a brilliant conversationalist, traits that made him popular with students and staff alike. Unfortunately, his potential contribution to the University was lost when he died in an accident on a Nova Scotia lake in 1923.

With the end of their military service, two more men who were to give many years of service joined the department. A former student, Alex Cook, joined the faculty in 1918. Even though he was teaching fifteen hours per week, he found time to complete the requirements for an MSc from Harvard (1923) and a PhD from Chicago (1929). He left the department in 1951 to become Director of Student Advisory Services. Following service in the Artillery, J. W. Campbell, who was apparently the first staff member to continue to do research following his appointment, came on staff (1920). His principal interests were in astronomy and mechanics; most of his papers were analyses of the shape of hanging, flexible cables under various conditions of load and temperature. In

1941, fully realizing the danger of making negative predictions of the future, he published a paper in which he concluded that a rocket trip to the moon and back would be impossible.³ His formulae were correct; his prediction failed because he could not envisage a fuel that would yield an acceleration of more than 2 g's. Had he tried an acceleration of 8 g's, his foresight would have been praised. Perhaps attempts to see the future should be left to the Jules Vernes of the world.

In 1929, the department grew to four with the arrival of Keeping, a mathematical physicist with an interest in statistics. He developed a relatively advanced course in statistics and his notes eventually were expanded into a highly regarded text on Statistical Inference. Many years later (1971) he produced a short history of the department, from which much of the information for this article has come. Anyone who is interested in more details should consult his account.

The world was plunged into the great depression, and the drought in western Canada that accompanied the financial disaster elsewhere assured particularly hard times for Albertans. University salaries were reduced by 10 percent (assistant professor's salaries dropped from \$2,500 to \$2,250), and when Social Credit came to power, depreciated further by the substitution of scrip for some of the money. These times were much more difficult for other parts of the community than for professors, but still students attended the University. Despite the small size of the department, there was an honours program that attracted several students. Ten students were working toward an honours degree in 1931.



E. S. Keeping

Max Wyman graduated from the program in 1937 and, as was customary, was counselled to attend a good American university for his PhD which he received from the California Institute of Technology in 1940. He began his distinguished service to The University of Alberta in 1943, where

his research continued, as was attested by the opening sentence of a paper that appeared in *Reviews of Modern Physics* in 1946: "Mr. Max Wyman has drawn our attention to several mistakes in the formulas of the second part of our paper." The authors were A. Einstein and E. G. Straus.⁴

The Transition Period

Mathematics is the science of saving thought.

Most of the staff of the department were too old for military service in the Second World War, so the disruption was much less severe than had been the case during the 1914-18 conflict. With the great influx of veterans, many of whom needed refresher courses before beginning the regular University program, a larger teaching staff was required. The new members were Thorlief Fostvedt, Reginald Jacka, G. Dalsin

and A. Roshko in 1945, Edgar Phibbs in 1947, William Bruce in 1948, Douglas Crosby in 1950, George Horton and Leo Moser in 1951, Tim Rooney in 1952, and Heinz Helfenstein and John McGregor in 1953. The increases in the size of the staff even after the veterans had graduated reflected the increased specialization of the courses taught, and the beginning of the reduction in teaching loads that would free time

for academic pursuits that were not directly pedagogical in nature.

The communication of mathematical ideas to undergraduates was the overwhelmingly dominant activity of the department from its inception until the early 'sixties. The only deviations from the norm were caused by wars, depressions, and the occasional graduate of the honours program who wanted to read for an MSc. During the early 1950s, technical competence in mathematics was no longer deemed a necessary attribute of the well educated man in Alberta, with the consequence that by 1952, the Department of Education had deleted trigonometry and calculus from the grade 12 mathematics program, leaving only algebra. Coincidentally, failure rates in first-year University courses escalated, and time-consuming committees were established to consider the problems. Tests to evaluate the mathematical competence of incoming students were

constructed, and a remedial program was provided for those whose background was weak. These activities have been revived some twenty-five years later, at least partly as a result of the abolition of Grade 12 Departmental Examinations in the early 1970s. One attempt to ameliorate the situation in 1958 was a summer course in Elementary Mathematics from an Advanced Viewpoint presented for high school teachers by R. V. Andree of the University of Oklahoma, and Wyman; bursaries of \$200 to \$300 were available to the fifty teachers who attended. Wyman continued to teach this course during the regular session until 1962. We should note that Campbell, before his retirement in 1954, had managed to have trigonometry returned to the high school program.

By 1960, *Sputnik* had returned mathematics and the physical sciences to respectability.

in the Rockies now bears his name.

Among the department members active in research during the years immediately prior to 1961 were Wyman, Moser, Narayana, and Lee Lorch and Henry Lowig. These were the men who first attracted students who had graduated from other universities to come here to do their graduate work. Narayana was known for his work on tournaments. Lowig was cited by Bourbaki (a famous consortium of French mathematicians who attempted to place all of mathematics on a rigorous, axiomatic foundation) for an important theorem on the cardinality of the vector basis of a separable, infinite-dimensional Banach space. Lorch and Wyman were experts in the Special Functions of Mathematical Physics, while Moser was famous for the problems he posed, particularly in number theory and combinatorics. The nucleus of people necessary to start a PhD program was in place.

When the department first accepted PhD students, the requirements for the degree did not exceed those specified by the graduate faculty of the University. It soon became evident that a combination of problems peculiar to the department required special regulations. Moser chaired a committee in 1962 that recommended that the department adopt a precandidacy examination in analysis, algebra, and two subjects of the candidate's choice, a candidacy examination in the area of his research, and a defence of his thesis. In addition, he was to be examined in two foreign languages. These requirements are essentially the same today although there has been an increase in the number of courses the candidate must take. In the subsequent twenty years, some sixty-five mathematicians have earned PhD degrees. During the same interval, some 117 MSc degrees have been granted; two of the latter were non-thesis degrees, a new degree introduced in 1979 based only on course work.

An effective graduate program requires that the staff and students keep abreast of current developments. A regular colloquium, and a library with a comprehensive collection of current journals and recent books are the two principal means to that end. Shortly after his arrival in Edmonton, Moser started a regular colloquium to encourage department members to

disseminate the results of their research. Later, when more money became available, speakers from outside the University could be invited. For example, Paul Cohen of Stanford University spoke in the colloquium shortly after he had proved that the axiom of choice is independent of the other axioms of set theory, and Paul Erdős, who is the source of an immense number of problems and solutions to problems in number theory, has been a perennial visitor. While these are perhaps the most famous speakers, well-known mathematicians from around the world meet in this weekly colloquium.

The library serves two purposes for a mathematician. Newton's way of recognizing the work of his predecessors was "If I have seen further, it is by standing upon the shoulders of Giants." It is even more important that a mathematician not recreate already known results. In order that the library serve the department well, its holdings must be extensive and accessible. In 1961, the accessibility of the Mathematics, Physics, and Chemistry sections of the library to the majority of its users was greatly improved by locating those sections in the basement between the Mathematics and Physics building (now the Physics building) and the Chemistry building. The mathematics portion of the science library accompanied the department in its move to Campus Towers in 1966, and when the department returned to campus with its move to the Central Academic Building five years later, a deputation of mathematicians succeeded in convincing President Wyman and the University Library Committee that our library should remain physically proximate. This concession has substantially enhanced the usefulness of a very good mathematics library.

Lorch realized very soon after he arrived in 1959 that the mathematics library needed many more books and journal subscriptions if it was to adequately serve the needs of a research department. He was soon made chairman of the department's library committee. His frustrations with these duties were epitomized in his committee report to the department one month into the 1962-3 academic year: "We have already spent \$7,500 of our \$5,000 allotment (for books and new subscriptions)." This might not have been regarded as

The Modern Department

*Mathematics is not a closed body of theory. It is the creative activity of men and women. It is the work of those who are filled with an insatiable curiosity to know the answers to its unsolved problems, who know what it is to wrestle with these problems and to fail, who sometimes know the joy of finding at least a partial answer to some of them.*⁶

It takes more than respectability to make a department grow. The post war "baby boom" came of university age, and in response to this pressure, the department grew from twenty-three members in 1962 to fifty-one members in 1970. With the student population stabilizing at around 19,000, the 'seventies became a time of relatively slow growth. There are currently fifty-four members of the department. It would have been larger if the ten-member Department of Statistics and Probability had not been formed in 1981.

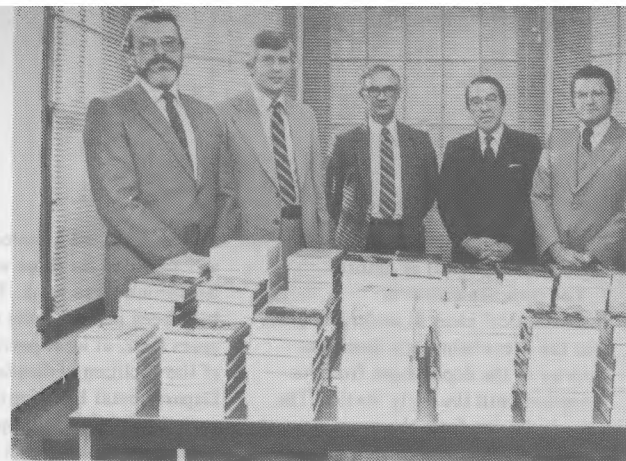
Notwithstanding the explosive increase in the number of students coming to the university in the late 'fifties and early 'sixties, Keeping managed to reduce the average number of classroom hours per staff member. The time and energy thus freed could be directed toward other kinds of scholarly activity. For example, William Sharp was very interested in the modernization of the honours program; one of his projects was the development and presentation

in 1962 of a special first course in calculus to talented students who were interested in mathematics, now that the number of first-year students justified such an endeavor. At about the same time, a first-year introduction to some aspects of modern algebra was instituted. This first-year honours program enabled gifted students to begin a serious study of mathematics immediately upon entering university. During the next decade, several courses for honours students were revised, and several new courses developed, with the consequence that today, our graduates are very well prepared for graduate school. In some cases, the Graduate Record Exam normally required for entry to an American graduate school will be waived upon presentation of a University of Alberta transcript and a letter of recommendation from the department. Unfortunately, Sharp was soon persuaded to go to the University of Toronto where he remained until 1972, when he lost his life in a mountain climbing accident. A peak

December 1982

November							January						
1	2	3	4	5	6								
7	8	9	10	11	12	13	2	3	4	5	6	7	8
14	15	16	17	18	19	20	9	10	11	12	13	14	15
21	22	23	24	25	26	27	16	17	18	19	20	21	22
28	29	30					23	24	25	26	27	28	29
							30	31					

February						
1	2	3	4	5	6	7
8	9	10	11	12	13	14
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22	23	24	25	26	27	28



sunday

5

12

19

26 ■ Boxing Day

monday

6 ■ GFC Executive

13

20

27 ■ Staff vacation

tuesday

7

14

21

28 ■ Staff vacation

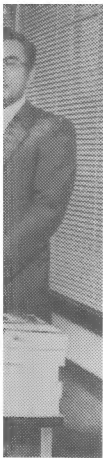
wednesday

8

15

22 ■ Student

29



A window on contemporary Japanese literature and oriental thought is before (left to right) Stan Munro, Terry White, and George Baldwin of our University; S. Tomihari, the Japanese Consul General; Morris Maduro, Alberta Department of Federal and Intergovernmental Affairs; and M. Motozono, the Japanese Consul. Mr. Tomihari recently presented the ninety-seven volumes to the Department of East Asian Languages and Literatures on behalf of the Japan Foundation. As this was the third such donation by the foundation in as many years, the department's library is a model of its kind.

y

thursday

2 ■ GFC

9

16

23 ■ Deadline for 6 January 1983 Folio

30

friday

3

- Board of Governors
- Until 4 December
Celebrations: "The Legacy of
E.K. Broadus and F.M. Salter"

- Until 5 December
Faculty Open Houses: Arts, Law,
Library Science*

10

- Last day of classes except for
Law, Dentistry, and Medicine
- Official Opening of Rebecca Aronyk,
MVA Exhibition*

17

- Festival of Nine Lessons and Carols

24 ■ Christmas Floater

31

saturday

4

11

18

25 ■ Christmas Day

n begins

responsible behavior in some quarters, but the situation was truly desperate, and he did succeed in his attempt to instill a sense of urgency in the department toward the growth of the library. When the financial stringency in the University eased in subsequent years, the library was one of the principal beneficiaries. Unfortunately, these good times for the library were not to last. Ceilings put on University expenditures combined with the explosive increase in the amount of new knowledge and the skyrocketing costs of books in the 'seventies and 'eighties have brought new pressures to bear on library budgets.

Each of the men who led the department into the modern era influenced its development in many ways, so it is certainly unfair to characterize his contribution by a *vignette*. Nevertheless, an incident, an activity, or a special interest may shed some light on what he meant to the department and the University. For

example, Wyman was dedicated to helping others as well as to his research. He could be easily interrupted to resolve an administrative or academic problem, but a backward glance as you left his office revealed that he had already re-immersed himself in his research. This ability to concentrate on a problem until it was solved, and then to leave it was undoubtedly one of the reasons he could keep up with his research interests and resume publishing shortly after retiring as president.

Leo Moser was a very colorful mathematician with an infectious, indefatigable enthusiasm for his subject. He had collected and created over the years a supply of problems that seemed inexhaustible. Everyone in the department was at one time or another challenged with a question from an area in which he pretended some competence. Some of these problems were unsolved, while others

*There was a mathematician named Moser
Well-known as a problem proposer
He gave some that were silly
To his brother named Willy
Did they stump him? The answer is No Sir.⁷*

required only an ingenious application of some simple mathematical principle. He eventually recorded many of these questions in a problem book that became one of the focal points of the department. Many others contributed problems, and some others, solutions. Occasionally, someone would collect the prize of a few dollars offered by the poser (usually Moser or Erdős) for the solution of a problem deemed particularly difficult. The book is still with us, but after Moser's untimely death in 1970, its popularity and impact gradually diminished.

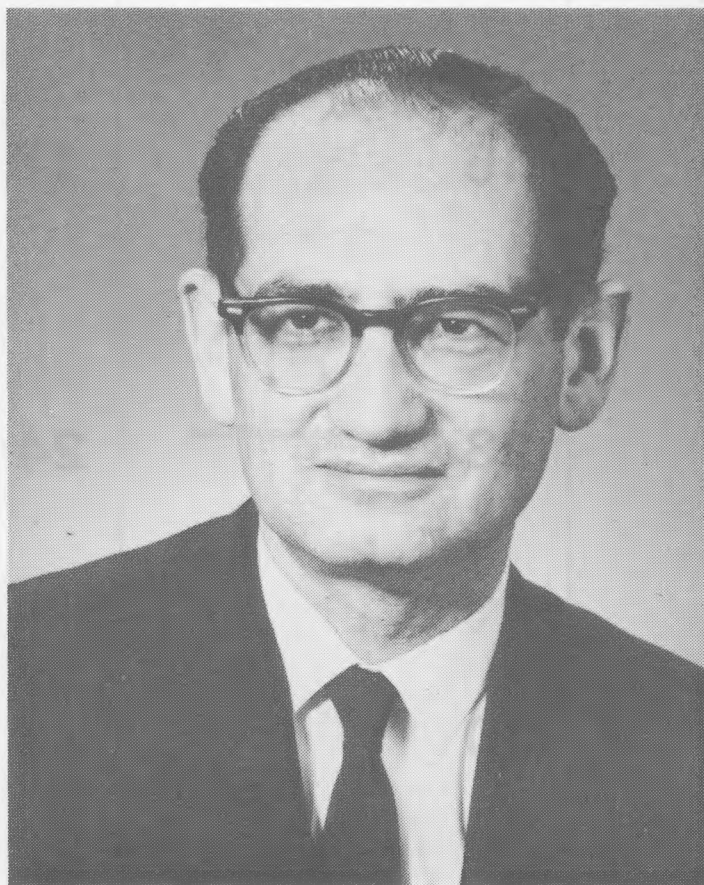
In addition to Moser's mathematical interests, which were in number theory and related fields, he

was an accomplished chess player. He played simultaneous games against as many as thirty opponents, and was the Alberta chess champion in alternate years. (He did not defend his title won in Edmonton when the championship was held in Calgary the following year.) He was also an excellent raconteur with many stories and poems, some good, some bad, and some risqué. A remarkable man!

Lorch also is a remarkable man. He is a very talented mathematician who, in the late 'forties, attempted to end racial segregation in Stuyvesant Town development in Manhattan. As a consequence, he was dismissed from the City College of New York, and subsequently, because he sub-let his



Max Wyman



Leo Moser

Stuyvesant Town apartment to a negro family, was dismissed from his new position at Penn State. Five years later (1955), he was dismissed from Fisk University in Nashville for refusing to testify before the House Committee on Un-American Activities. He was subsequently acquitted in Federal Court of a Contempt of Congress citation that resulted from this refusal. In 1958, Philander Smith College in Little Rock, the last American University to offer him employment, could not withstand the pressure arising from the public condemnation of the open support given by him and his wife Grace to the civil rights movement in the United States, and had to terminate his appointment. A country-wide blacklisting forced him to leave his homeland to settle in Canada. During the nine years he spent here prior to moving to York University, this courageous man was a major factor in opening the department to the international mathematical community.⁸

By 1966 the die had been cast. It only remained for staff members to get on with the business of establishing themselves in their chosen areas of expertise. The department had almost doubled in size in the first five years of the modern era. Some of the new members were senior appointments, but most were just beginning an academic career. Some of the additions strengthened the analysis, number theory, applied mathematics, and statistics groups that had already been formed, but most were in areas of mathematics that had had little previous representation, such as algebra (group theory), topology (both point set topology and algebraic topology), ordinary differential equations, and approximation theory. Each of these groups developed an international reputation as it grew in size and strength. Three of the groups (algebra, differential equations, and approximation theory) have hosted major international conferences in recent years.

Writing research monographs and books is another activity that tends to accompany the development of strong research groups. Some of the areas represented are algebra (Sudarshan Sehgal), control theory (Macki), graph theory and combinatorics (Narayana, John Moon), mathematical modelling (Herbert

Freedman), approximation theory (Sherman Riemenschneider and George Lorentz of the University of Texas), and topology (Somashekar Murdeshwar, Naimpally and Brian Warrack, and Stephen Willard). In addition, numerous undergraduate textbooks and sets of lecture notes have been published for our students when currently available material seemed inappropriate. Willard wrote one of these texts. This was but one indication of his interest in students and his talent for teaching that won him the Faculty of Science Award for Excellence in Teaching in 1982.

One of the interesting developments has been the evolution of the application of mathematics to the biological sciences. This relatively new use of mathematics has drawn people from algebraic geometry and differential equations, as well as the expected areas of statistics and applied mathematics. If the early successes are an omen of exciting things to come, a great deal of our biological knowledge will be restructured, much as our understanding of physics was in the 18th and 19th centuries.

There is one area somewhere between pedagogy and research that has attracted the interest of several members of the department. Contests have been a popular way to stimulate interest in mathematics among students. When his exceptional talent was recognized in the late 'forties, Eoin Whitney was encouraged to write the world-famous Putnam exam for undergraduates. In 1947 and again in 1948, he placed among the top five students in North America, and in 1948 was awarded the first prize of a graduate scholarship to Harvard. After receiving his degree, he joined the staff of this department. In 1971, the team of Eleanor MacDonald, John Mallet-Paret, and Stephen Whitney (Eoin's son) placed among the top ten teams in North America. Mallet-Paret has since had the distinction of being invited to present a paper at the International Congress of Mathematicians. The department's traditionally strong honours program continues to attract and develop top quality mathematicians, with twenty-three students in the program this year.

The department has also been involved with designing and administering the Alberta High

School Prize Exam in mathematics since 1958. Students who do well in this examination are invited to write the Canadian Mathematics Olympiad exam that is sponsored by the Canadian Mathematical Society. In turn, four of the top students in this exam are invited to represent Canada in the World Mathematics Olympiad. For the last two years, Geoffrey Butler has been the national director for the CMO, and one of the two coaches of the Canadian World Olympiad team. At the same time, Murray Klamkin and Andy Liu have been the coaching staff for the American World Olympiad Team. In addition, Liu and Sehgal have developed programs to bring mathematical ideas not present in the school syllabus to interested students.

Many mathematicians and their students in The University of Alberta have marvelled at the beauty of a mathematical argument in the seventy-five years since Edwards taught his first class. The ways of thought of these men and women were influenced by the society into which they were born, and they, in turn, have reshaped the ways of thought of that society. It has been impossible to portray the breadth and depth of this

department's mathematical activities over those few years, but perhaps I have conveyed some of the atmosphere I have found here. I am sure others would have viewed it differently than I, would have mentioned other names and recounted other episodes. Would the picture have been different? Ask my colleagues!* □

Alvin Baragar
October, 1982

*References

- 1) *Mathematics Magazine*, 55, (1982), 235.
- 2) *The American Mathematical Monthly*, 88, (1981), 73.
- 3) *Philosophical Magazine and Journal of Science*, 31, (1941), 24.
- 4) *Reviews of Modern Physics*, 18, (1946), 148.
- 5) *The American Mathematical Monthly*, 89, (1982), 280.
- 6) *The American Mathematical Monthly*, 89, (1982), 388.
- 7) I believe Leo Moser wrote this limerick. It was sent to me by his brother, Willy Moser, of McGill University.
- 8) V. M. Mayes, "Lee Lorch at Fisk," *American Mathematical Monthly*, 83, (1976), 708.
P. C. Kenshaft, "Black Women in Mathematics in the United States," *American Mathematical Monthly*, 88, (1981), 592.

Acknowledgements

I want to thank Professors Abbott, Al-Salam, Macki, Moon, Moser, and Pounder for their assistance.

Letters

WISEST

■ It was with some concern and regret that I read in *Folio* two weeks running that a number of highly qualified colleagues convened by no less a personage than the Vice-President (Research) are spending much of their valuable time researching what in general is common knowledge, namely that the sexes are not represented evenly in a number of fields. Why this should be so is a valid question for anthropologists and other social scientists, but the approach of WISEST is not scientific. Without any logical basis it assumes that the unequal distribution is iniquitous. "I suppose you could say," explains the spokesperson, "that we are interested in the limits of our indignation."

There is a grave question as to whether a group so full of indignation is capable of producing a worthwhile report. So much emotional

commitment can result only in the report being a condemnation of the alleged iniquity, the statistics and their preconceived interpretation being a quasi-scientific or seemingly objective justification for the moral message. This mismatch of numbers and ethics is itself cause for indignation. Let WISEST argue on moral grounds to back its moral message. It is intellectually unacceptable to back a foregone conclusion with an almost irrelevant preamble, and if this is what WISEST has in mind for the rest of us at the end of its deliberations, then it must take us for dupes.

It is even irksome to be badgered with an officially sanctioned crusade, when the moral issues are by no means so clear as some would have us believe. As long as freedom of choice for the individual ranks higher as a moral criterion than statistical

symmetry, there is nothing reprehensible in a woman choosing a nursing career over one in engineering. Only if entry into a field of activity is sexually regulated, would there be cause for protest. However, no committee will screen out male applicants for nursing school, and I have never heard that the females already enrolled would make conditions unpleasant for a lone male. While there has been talk of female engineers being made to feel uncomfortable, the problem does not seem to be frequent or acute and can be dealt with by admonishment or disciplining where it arises. No one need feel pressured. Hence the decision making, whether on the individual or the group level, corresponds to personal preferences and aspirations and is an act of self-realization. While vigilance is in order, my indignation is quiescent at

this, but what mischief, on the other hand, can be set afoot by those who instill groundless feelings of guilt in susceptible female nurses that they are perpetuating a demeaning stereotype, or in susceptible male engineers, that they unprogressively sought out a haven of male dominance in order not to be bested by a woman, and in susceptible non-nurses-non-engineers that their society created these (assumed immoral) sexual imbalances.

How much better it would be if the time and effort spent by WISEST were devoted to encouraging nurses (of either sex) and engineers (of either sex) to see their jobs as callings by which society benefits and they themselves are fulfilled.

Richard d'Alquen
Department of Germanic Languages

T. Yedlin (Slavic and East European Studies) spent two weeks, 14 to 29 October, in New York attending the 37th United Nations General Assembly as a member of the Canadian delegation in the capacity of Special Advisor. The invitation was issued by the Honorable Allan J. MacEachen, Secretary of State for External Affairs.

publications

Bain, Bruce (Educational Psychology) and Yu, Agnes: *Acta Psychologica Sinica* 1982-83 pp. 351-357.

Caldarola, Carlo (Sociology) (ed.): *Religion and Societies: Asia and*

the Middle East. Mouton Publishers, Berlin, 1982, 688 p.
Caldarola, Carlo (Sociology): "Non-Church Christianity and Japan's Cultural Identity," in *Culture and Religion in Japanese-American Relations: Essays on Uchimura Kanzo, 1861-1930*, ed. Ray A. Moore, Ann Arbor: Michigan, University of Michigan, Center for Japanese Studies (1981), pp. 101-113.
Green, L. C. (University Professor): "Trends in the Law Concerning Diplomats." 19 *Canadian Yearbook of International Law* (1981): pp. 132-157.
Haymond, Robert (Educational Psychology): "On Carl Gustav Jung: Psycho-Social Basis of Morality During the Nazi Era." In *Journal of Psychology and Judaism*, Vol. 6, No. 2, Spring/Summer 1982, pp. 81-112.

people

Joyce Boorman (Movement Education) was invited to make presentations at the following conferences during the fall term, 1982. The Second International Conference on "Dance and the Child" held in Stockholm in August, 1982. Title of Research Paper: "Symbolic Representation in Children's Dance."

The British Columbia Chapter Conference of the Orff Association. Keynote presenter on Inter-relating Music and Dance in Children's Education in September, 1982.

The Music Educators Association of Ontario Conference '82, "The Challenge of Change." Title of two presentations, "Music and Dance: Growing Together," October, 1982.

The National Conference of the American Orff Schulwerk Association held in Portland, Oregon. Title of two presentations: "The Imaginative Fusion of Music" and "Dance For Children," November, 1982.

Duncan Fishwick (Classics) gave an invited paper "A Municipal Temple at Narbo," at the Eighth International Congress of Greek and Latin Epigraphy held in Athens from 3 to 9

October. He later participated in a colloquium on "Staatsverträge im römischen Reich" held at Munich and gave an address, "Der Altar der Drei Gallien: das Zeugnis der Münzen," before the Kommission für Alte Geschichte und Epigraphik, Munich, and the Seminar für Alte Geschichte, Heidelberg.

L.C. Green (University Professor) delivered the closing address to the Economic Development Association Conference at Camrose, 9 November 1982.

Ashrafur Hasan (Political Science) presented the paper "Pakistan, Malaysia and India: Case Studies of National Integration/Disintegration" at the Twelfth Annual Conference of the Canadian Council for Southeast Asian Studies held at Lakehead University, Thunder Bay, 5 to 7 November.

Chuji Hiruki (Plant Science) was invited to chair the scientific paper session on tree mycoplasma diseases at the Fifth Conference on Mycoplasma Diseases of the International Union of Forestry Research Organizations which was held 24 to 26 October at University of Wisconsin-Green Bay. Dr. Hiruki also presented invitational papers entitled "Histochemistry of tree mycoplasma diseases" and "A high voltage electron microscope study of plant mycoplasma in thicker sections."

service information

All information to be included in this column must reach the Office of Community Relations by 9 a.m. the Thursday prior to publication.

Coming Events

Lectures and Seminars

Informal Italian Colloquia

Are held on Thursdays from 1 to 2 p.m. in the Department of Classics Faculty Lounge. They are open to anyone wishing to practice their Italian. 1-37 Humanities Centre.

Department of Economics

29 November, 3 p.m. Robin Lindsey, Department of Economics, will present a seminar entitled "Resource Depletion in a Trading Economy Subject to Import Disruptions" 8-22 H.M. Tory Building.

Department of Forest Science

25 November, 3:30 p.m. Eiji Nagasawa, Visiting Scientist from the Tottori Mycological Institute in Japan, will present a lecture and film on "Shiitake - biology and cultivation of an edible mushroom." 345 Chemical/Mineral Engineering Building.

Department of Classics

25 November, 3:30 p.m. R. A. Swanson, Professor of Classics and Comparative Literature at the University of Wisconsin-Milwaukee, will speak on "Longinus', Pope, Allen Tate and others." This seminar is sponsored by the Departments of Classics, Comparative Literature, and English. 1-8 Humanities Centre.

Department of Biology

25 November, 4 p.m. Michele Wheatley, Department of Biology, University of Calgary, will present a seminar entitled "Physiological Responses of Decapod Crustaceans to Salinity Change." CW410 Biological Sciences Building.

Department of Radiation Oncology, Cross Cancer Institute

25 and 26 November. Alon J. Dembo from the Princess Margaret Hospital in Toronto will be visiting the Cross Cancer Institute as an Alberta Cancer Board Gadeski Visiting Professor. Dr. Dembo will present two lectures, the first on 25 November at 4 p.m. in the auditorium of the Cross Cancer Institute entitled "The Princess Margaret Hospital Experience in the Management of Ovarian Cancer." The second lecture will be given on 26 November at 12 noon in the Multi-Purpose Room of the Cross Cancer Institute entitled "Prognostic Factors in Ovarian Cancer. Application of Multi-Variate Analysis"

Alberta Heritage Foundation for Medical Research

25 November, 4 p.m. Daniel Axelrod, Biophysics Research Institute, University of Michigan, will present a lecture entitled "The Clustering of Acetylcholine Receptors on Biological Membranes." This lecture is being hosted by the Departments of Zoology and Biochemistry. 2-27 Medical Sciences Building.

30 November, 4 p.m. J. W. Kebabian, Chief of the Biochemical Neuropharmacology Section (NINCDS), Bethesda, Maryland, will speak on "Biochemical and physiological studies of the β -adrenoceptor and D₂ dopamine receptor in the intermediate lobe of the rat pituitary gland." M141 Biological Sciences Building.

Faculty of Arts

25 November, 4 p.m. R. W. F. Wilcocks, Department of Romance Languages, will speak on "'Agamemnon was a good man' Father Figures in the Theatre of Jean-Paul Sartre." B-87 Tory Building.

Faculty of Extension

26 November, 12.15 p.m. R. Morgan, Department of Biochemistry, University of Alberta, will speak on "Some Thoughts of a University Scientist." Music Room, Edmonton Public Library

Department of History

26 November, 3:05 p.m. Brian Evans will speak on "Réns'hén. Root of Canadian Chinese Relations." 2-28 H.M. Tory Building.

Department of Zoology

26 November, 3:30 p.m. John Stockner, Canadian Department of Fisheries and Oceans, West Vancouver, will give a lecture entitled "Whole lake fertilization for enhancement of sockeye salmon in central British Columbia lakes." 345 Earth Sciences Building.

3 December, 3:30 p.m. Michael Ruse, Department of Philosophy, University of Guelph, will present a seminar entitled "Darwinism 100 years on." CW306 Biological Sciences Building.

Faculty of Pharmacy and Pharmaceutical Sciences

29 November, 2:30 p.m. J. R. McLean, Radiation Protection Bureau, Health and Welfare Canada, Ottawa, will speak on "Stannous Titr A Potential DNA Damaging Agent." For further information, contact R. G. Micetich at 432-2953. 2023 Dentistry/Pharmacy Centre.

30 November, 3 p.m. M. Hussain, Alberta Agriculture, will speak on "Toxicity in Agrichemicals." 2023 Dentistry/Pharmacy Centre.

Department of Religious Studies

Miguel León-Portilla, National University of Mexico, will present the following lectures:

29 November, 8 p.m. "The Shapes of Time and Space." B1 Tory Lecture Theatre

1 December, 8 p.m. "Unearthing and Meaning of the Aztec Main Temple." B1 Tory Lecture Theatre

University Lectures

29 November, 3 p.m. "Ways to Approach the Universe of the Gods." B2 Tory Lecture Theatre.

30 November, 3 p.m. "Tlamacehualiztli. Penance and the Afterlife." B1 Tory Lecture Theatre

1 December, 3 p.m. "An Aztec (Nahuatl) Concept of Art." B2 Tory Lecture Theatre.

Department of Plant Science

30 November, 1 p.m. Distinguished Visitor, Haldor Fykse, Professor of Weed Science, Agricultural University, Norway, will present a seminar entitled "Weeds and Weed Control Problems in Norway." 1-06 Agriculture-Forestry Centre.

Department of Slavic and East European Studies

30 November, 3:30 p.m. A. Tumanov, University of Alberta, will speak on "Origins and Sources of Old Russian Music (XI - XVI c.): Christianity and the Search for Musical Identity Common to Eastern Slavs." 311 Athabasca Hall.

Department of Botany

1 December, 3:30 p.m. R. Wyatt, University of Georgia, will speak on "Population Bryology of Bryophytes: an overview with special emphasis on the Mniaceae." M137 Biological Sciences Building.

Centre for Criminological Research

1 December, 7:30 p.m. L. W. Kennedy, Director, Population Research Laboratory, Department of Sociology, will speak on "Mediation and Social Control in China." 14-6 Tory Building.

9 December, 7:30 p.m. Dr. Kennedy will speak on "Chinese Penal Institutions." 14-6 Tory Building.

Department of English

2 December, 3:30 p.m. Robert Kroetsch, novelist, critic, and Professor of English, University of Manitoba, will speak on "Carnival and Violence." L-3 Humanities Centre.

Limnology and Fisheries Discussion Group

2 December, noon. Sean McNicholas, University of Alberta, will discuss "Aspects of toxic cyanobacteria (Blue-green algae)." G217 Biological Sciences Building.

Department of Geography

3 December, 3 p.m. Fred Boal of Queen's University, Belfast, will lead a colloquium by giving a paper entitled "The frontier in the city: ethnic interaction in Belfast." 3-36 Tory Building.

Music

Edmonton Gregorian Chant Choir

The choir meets every Monday evening, 7 to 8:30 p.m., 3-01 Rutherford Library South. No experience necessary. For more information, call St. Joseph's College, 433-1569.

Department of Music

26 November, 8 p.m. Joachim Segger on the piano. Convocation Hall.

27 November, 5 p.m. A faculty recital with Alexandra Munn and Ernesto Lejano on the piano—"A Tribute to Haydn—Part II." The recital will include the composer's solo sonatas, as well as the Brahms-Haydn Variations on a theme by St. Anthony for 2 pianos. Convocation Hall.

28 November, 7:30 p.m. The University of Alberta Concert Band with Ernest Dalwood, conductor. Convocation Hall.

29 November, 8 p.m. The University of Alberta Stage Band with Fordyce Pier, conductor. Convocation Hall.

30 November, 5 p.m. A non-compulsory student recital featuring Constantine Shandro on the piano. Convocation Hall.

75th Anniversary Events

Until 30 November. The Stravinsky Display. Materials illustrating the genius of the Russian composer, Igor Stravinsky. Rutherford Galleria.

26 November to 19 December. World Print III Exhibition. Organized by the World Print Council, the California College of Arts and Crafts, and Osaka University of Arts. Circulated by the Smithsonian Travelling Exhibitions Service. Ring House Gallery.

26 November to 7 December. Elsie Johnson: MVA Exhibition. Ring House Gallery.

29 November to 7 December. Canada Cup Invitational Volleyball Tournament. Main Gym. (Pre-Universiade event)

Bruce Peel Special Collections Room

Until 5 January, 1983. "A Gallimaufry of 18th century books" (in honor of the Canadian Society for Eighteenth Century Studies). B-37 Cameron Library.

Radio and Television

Radio

Programs broadcast on CKUA radio 580 AM. 94.9 FM

26 November, 7:30 p.m. International Development—"What Individual Canadians Can Do."

27 November, 7 p.m. University Concert Hall—"Concerts, recitals and interviews with faculty and special guests of the Department of Music."

1 December, 7 p.m. Masks and Faces—"Emotional Self."

1 December, 7:30 p.m. Extensions—"Instructors in the Faculty of Extension discuss their subject areas."

1 December, 7:45 p.m. Perspectives—"Issues underlying current events examined in lively debate format."

3 December, 7:30 p.m. International Development—"Non-Governmental Organizations."

Television

Programs broadcast on Q-9 and C-13.

29 November, 9 p.m. Islam in Focus

1 December, 9 p.m. What So Ever Things Are True—"The history, the present and the work of Graduate Students at the University."

2 December, 9 p.m. Pregnancy: For A Healthy Start—"Modern medical techniques and precautions for high risk mothers."

Sports

Hockey

26 and 27 November, 7:30 p.m. Golden Bears v. University of Saskatchewan. Varsity Arena.

Volleyball

25 to 27 November. Golden Bear and Panda Volleyball—1982 North-Am Tournament. Thursday—evening. Friday and Saturday—all day. Varsity Gym.

"Over 35" Hockey

Entry deadline for this event will be 9 December at 1 p.m. in the Men's Intramural Office. Physical Education and Recreation Centre. Team entries preferred but individuals will be placed on a team.

Matters of Faith

Lutheran Campus Ministry Worship each Sunday at 10:30 a.m. in the Newman Centre, the west basement of St. Joseph's College. All are welcome.

Theatre

Studio Theatre

2 to 11 December, 8 p.m. "Marat/Sade." Will be guest-directed by Barry MacGregor, and feature among its cast the Department of Drama's Graduating Class in Acting.

SUB Theatre

Films

29 November, 8 p.m. "Star Trek II—The Wrath of Khan" (1982).

30 November, 8 p.m. "Tron" (1982)

Dance

26 and 27 November, 8 p.m. SUB Theatre presents—The Toronto Dance Theatre. Tickets available at all BASS outlets.

Non-Credit Courses

Faculty of Extension

Applied Behavioral Sciences Division

For further information on the courses listed below, phone 432-5069.

Stress Management for Everyday Living—Section B

Dates: 7 p.m., 26 November to 4:30 p.m., 27 November. Fee: \$40. Instructor: Don Melnychuk.

Managing Time at Work—Section B

Date: 3 December. Time: 9 a.m. to 4:30 p.m. Fee: \$50. Instructor: Tariq Bhatti.

Communicating Effectively with 3 to 12 Year-Olds

Dates: 4 and 5 December. Time: 9 a.m. to 4 p.m. Fee: \$45. Instructors: Lloyd Flaro and Marilyn Flaro.

Understanding Blended Families

Dates: 10 and 11 December. Time: 9 a.m. to 4 p.m. Fee: \$55. Instructor: Carroll Ganam.

Business, Industrial and Professional Division

Employee and Discipline and Complaint Handling

Dates: 2 and 3 December. Time: 9 a.m. to 4:30 p.m. Fee: \$165. For further information, call 432-5067

Manpower Planning

Dates: 6 and 7 December. Time: 9 a.m. to 4:30 p.m. Fee: \$300. For further information, call 432-3037.

Real Estate Division

Real Estate Syndication Update

Date: 14 December. Time: 9 a.m. to 4:30 p.m. Fee: \$95. For more information, call 432-5060.

Annexation Techniques and Decisions

Dates: 29 and 30 November. Time: 9 a.m. to 4:30 p.m. Fee: \$135. For further information, contact Lloy at 432-2912.

Planning Law

Dates: 6, 7 and 8 December. Time: 9 a.m. to 4:30 p.m. Fee: \$175. For further information, contact Lloy at 432-2912.

Management Studies for Women Career and Job Survival

Date: 10 December. Time: 9 a.m. to 5 p.m. Fee: \$100. For more information, call 432-2230.

Computing Services

Client Training Sessions

Computing Services is taking registrations between 8:30 a.m. and noon for the following non-credit courses. For further information, please telephone Information Services at 432-2261, or come to 352 General Services Building.

Advanced Text Formatting

Course number: 840. Date: 6, 8, 13, 15 December. Time: 2 to 4 p.m. Fee: \$25. Prerequisites: "Introduction to Text Formatting" or equivalent familiarity with TEXTFORM. Place: 315/357 GSB

Introduction to Computing at the U of A

Course number: 777. Date: 6 December. Time: 11 a.m. to 1 p.m. Fee: \$10. Prerequisites: No previous computing experience, but familiarity with a keyboard is required. Place: DECwriter Terminal Room, 315 GSB.

Courier Operation and Visual Editing
Course number: 814. *Date:* 7, 9 December. *Time:* 11 a.m. to 1 p.m. *Fee:* \$15. *Prerequisites:* "MTS and Editor Fundamentals" and a good working knowledge of the File Editor. *Place:* 327 GSB.

MTS and Editor Fundamentals
Course number: 798. *Date:* 7, 9 December. *Time:* 11 a.m. to 1 p.m. *Fee:* \$15. *Prerequisites:* "Introduction to Computing" or equivalent working knowledge of a DECwriter terminal and the MTS system. *Place:* 351 GSB.

MTS Overview
Course number: 828. *Date:* 7, 9 December. *Time:* 10 a.m. to noon. *Fee:* \$15. *Prerequisites:* "MTS and Editor Fundamentals. *Place:* 315/327 GSB or 315/357 GSB.

Introduction to Plotting
Course number: 849. *Date:* 10 December - 10 a.m. to noon; 14 December - 1 to 4 p.m. *Fee:* \$20. *Prerequisites:* FORTRAN, basic MTS and Editor commands. *Place:* 315/351 GSB.

Notices

General Faculties Council

- GFC's next meeting is scheduled for *Thursday, 2 December 1982* at 2 p.m. in the University Hall Council Chamber.
1. Approval of the Agenda
 2. Approval of the Minutes of 1 November, 1982
 3. Question Period
 4. New Members of GFC 1982-83
Reports
 5. Executive Committee Reports
 - 5.1 Executive Committee Minutes of 18 October, 1982
 - 5.2 Executive Committee Minutes of 8 November, 1982
 - 5.3 Executive Committee Minutes of 22 November, 1982
 6. Report of the Board of Governors
 7. Report of the Nominating Committee
 8. Facilities Development Committee: Oral Report
 9. Academic Development Committee: Oral Report
 10. Planning and Priorities Committee: Oral Report
New Business
 11. GFC Committee on Admissions and Transfer: Annual Report 1981-June 1982
 12. Admission Requirements: Recommendations from the Committee on Admissions and Transfer
 13. Admissions Process in Quota Faculties: Report of Senate Lay Observers 1981-82 and Comment from the GFC Committee on Admissions and Transfer
 14. GFC Writing Competence Committee: Annual Report 1981-82
 15. GFC Conference Funds Committee: Annual Report 1981-82
 16. GFC Campus Law Review Committee: Annual Report 1981-82
 17. Council on Student Services (COSS): Request for Change to Composition
 18. GFC Library Committee: Annual Report 1 July, 1981-30 June, 1982
 19. Academic Standing Changes: Faculty of Science
 20. GFC Housing and Food Services Advisory Committee: Annual Report for 1982
 21. Committee on Administrative and Professional Officers: Annual Report 1981-82
 22. Other Business

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As *Folio* was going to press, it was notified that the Executive Committee would make additions to this agenda at its 22 November meeting, and would likely include on the 2 December GFC agenda the Operating Budget Principles and Policies for 1983-84. Members of the University community may telephone the Secretary to GFC if they wish to know what items have been added to the 2 December agenda.

Cash Security and Crime Prevention Awareness Seminar

In view of changing economic times and growth of the University, *all* departmental administrators and office staff involved with cash handling procedures, security, safety, and crime prevention, are encouraged to attend this seminar.

It will be presented by the City of Edmonton Police Department, in conjunction with Campus Security, Personnel, and the Comptroller's Office, on 8 December, 1982 at 1:30 p.m. in the Banquet room of Lister Hall.

The one and a half (1 1/2) hour presentation will be of utmost interest to departmental administrators and staff responsible for these areas

To register and for further information, please contact Robert Goldbeck at 432-5384.

Selection Committee for a Dean of Medicine

The GFC Nominating Committee is seeking nominations to fill a vacancy for one member of the faculty, not a member of the faculty concerned, to serve on the above selection committee. Would those persons interested in serving on this selection committee, or those who have suggestions for nominees, please contact the Secretary of the Nominating Committee, Mrs. P. Plaskitt, at 2-1 University Hall, 432-4715. It would be helpful if a vitae of four or five lines could accompany any nomination.

Security of Staff and Students

Campus Security provides escort service to staff or students who may be working or studying during quiet hours in buildings on campus. This is directed towards persons who are in somewhat isolated areas and feel insecure or threatened.

Members of Campus Security will escort a concerned person to his/her vehicle, to a bus stop or a nearby residence in such instances. A call to 432-5252 should be made for this assistance.

Open House Change

The Faculty of Extension's Open house, originally scheduled for 3, 4, and 5 December 1982, has been moved to 18, 19, and 20 February 1983.

Surplus Equipment

The equipment appearing in this column is available only to University Departments with University Administered Funds. For further information about the purchase of equipment or the disposal of any of your department's surplus equipment, contact Bonnie O'Dwyer or Roy Bennett, telephone 432-3208.

- 1 AJ832 Keyboard Printer Terminal.
1 Lektromedia Terminal (114). For further information, please contact: M. A. Hall, 432-5605.

Scholarships, Fellowships and Awards

Young Canadian Researchers Fellowships

Donor: The International Development Research Centre. *Where tenable:* Canadian Universities. *Level:* Postgraduate. *Field:* Agriculture, Food and Nutrition Sciences, Health Sciences, Information Sciences, Energy and Earth Sciences, Communications, Social Sciences, Finance Administration. *Value:* Up to \$20,000. *Number:* Variable. *Duration:* Up to 12 months. *Conditions:* Canadian citizen or landed immigrant; completion of course work at graduate level, satisfactory academic qualifications; affiliation with a research institution in a developing country and evidence of the institution's willingness to accept the candidate during tenure. *Closing date:* 1 January 1983 *Further information and application forms should be requested from:* Student Awards Office or Fellowship Program, International Development Research Centre, P.O. Box 8500, Ottawa, Ont. K1G 3H9

Fellowships and Assistantships in Transportation

Donor: Transport Canada. *Where tenable:* At any Canadian university but in special circumstances (at the PhD level) may be approved for tenure outside Canada. *Level:* Postgraduate. *Field:* In any discipline related to transportation. *Value:* (a) PhD level Fellowships \$10,000. (b) Master's level Fellowships \$9,500. (c) Master's level Assistantships \$9,500. Tuition fees are to be paid by the student. *Number:* Unspecified. *Duration:* (a) May be held for a period of three years. (b) One year. (c) One year. *Conditions:* Canadian citizens or landed immigrants in Canada. *Closing date:* 12 January, 1983 (to the chosen university) 19 January, 1983 (to Transport Canada through the university). *Further information and application forms should be requested from:* Strategic Policy Branch (TUP), Transport Canada, Tower C, Place de Ville, Ottawa, Ont. K1A 0N5

Department of National Defence Scholarship and Fellowship Program

Donor: AUCC. *Where Tenable:* Normally in Canada, but special permission may be given in other countries. *Level:* Postgraduate. *Field:* Strategic studies of relevance to current and future Canadian national security problems, including their political, economic, social and military dimensions. *Value:* (a) Scholarships—\$8,500. (b) Fellowships—\$17,000. *Number:* (a) Scholarships—Up to eight. (b) Fellowships—Two. *Duration:* One year, but may be renewed if progress is satisfactory. *Conditions:* Canadian citizens; fellowship candidates must hold PhD degree or its equivalent; scholarship candidates must hold an Honours Bachelor's degree or its equivalent; candidates must not concurrently hold any other major awards whose cumulative value exceeds two-thirds that of the fellowship or scholarship accepted under this program. *Closing Date:* 1 February, 1983. *Further information and application forms should be requested from:* Awards Officer, Canadian Awards Section, Association of Universities and Colleges of Canada, 151 Slater Street, Ottawa, Ont. K1P 5N1

Positions Vacant

The University of Alberta is an equal opportunity employer but, in accordance with Canadian

Immigration requirements, these advertisements are directed to Canadian citizens and permanent residents.

NMR Spectroscopist

A NMR spectroscopist is required for the Faculty of Pharmacy Superconducting NMR Cryospectrometer Facility. Responsibilities include determination of service spectra, consultation with researchers, implementation of new hardware and software techniques, and troubleshooting in collaboration with resident electronic personnel. Experience in NMR spectrometry, computing science and electronics is highly desired. Send resume and references to or contact Dr. E. Knaus, Faculty of Pharmacy, The University of Alberta, Edmonton, T6G 2N8 for details (432-5993).

Opportunity in Canada's North

Registered nurse required to participate in extensive epidemiologic study of health status in Northwest Territories. Will require commitment for extended periods of northern travel over next two years. Previous nursing experience in northern Canada desirable. Position requires successful candidate to be based in Edmonton. Please send resume and references to: Director, Boreal Institute for Northern Studies, Room CW401 Biological Sciences Building, The University of Alberta, Edmonton, Alberta, T6G 2E9. Salary commensurate with nursing experience.

Non-Academic Positions

To obtain further information on the following positions, please contact Personnel Services and Staff Relations, 2-40 Assiniboia Hall, telephone 432-5201. As positions are filled on an ongoing basis, these vacancies cannot be guaranteed beyond 19 November 1982. For a more up-to-date listing, please consult the weekly Employment Opportunities Bulletin and/or the postings in P.S.S.R.

- Clerk Steno II (\$1,106 - \$1,324) Elementary Education
Clerk Typist II (\$1,106 - \$1,324) Political Science
Purchasing Clerk II (\$1,232 - \$1,487) Bookstore
Medical Steno (\$1,373 - \$1,682) Psychiatry
Secretary (Trust) (\$1,373 - \$1,682) Management Advisory Institute
Library Assistant II (\$1,373 - \$1,682) Geography
Administrative Clerk (\$1,373 - \$1,682) Nursing
Departmental/Executive Secretary (\$1,548 - \$1,908) Graduate Studies and Research
Pharmacist (Part-time) (\$954 - \$1,184) University Health Service
Food Service Worker III (\$1,324 - \$1,616)
Housing and Food Services
Equipment Assistant II (\$1,373 - \$1,682) Physical Education
Technician I (Trust) (\$1,426 - \$1,754) Medicine
Building Service Worker IV (\$1,487 - \$1,829)
Physical Plant (Building Services)
Technician II/Technologist I (Trust) (\$1,616 - \$1,992) Biochemistry
Technician II (Instrumentation) (\$1,616 - \$1,992)
Food Science
Nurse (\$1,829 - \$2,265) University Health Service, Pediatrics (Trust)
Dental Hygienist (Recurring Term) (\$1,682 - \$2,078) University Health Service
Applications Analyst (\$1,754 - \$2,171) Physical Plant (Energy Management)
Technologist III (\$2,078 - \$2,581) Genetics
Programmer/Analyst III (Trust) (\$2,472 - \$3,085)
Computing Science
Instrument Mechanic (\$2,985) Physical Plant (Utilities-Mechanical)
Controlsfitter (\$2,985) Physical Plant (Building Maintenance)

For vacant library positions, please contact the Library Personnel Office, 5th floor, Cameron Library (432-3339).

Advertisements

Advertisements must reach the Editor by 3 p.m. on the Thursday prior to publication date which date also serves as the deadline for cancellation of advertisements. The cost of placing advertisements is 30 cents per word with no discount for subsequent insertions. There are no refunds. There is a maximum limit of thirty words and a minimum charge of \$1.50. Contributors' corrections will be assessed at \$1.50 for each line in which an insertion is made. Advertisements cannot be accepted over the telephone.

Accommodations available

For rent—From now until spring/83. Three bedroom house. Negotiable. Mature couple preferred. Phone 484-1282. If no answer 459-6882 evenings.

For sale—Parkallen bungalow. \$89,900. Rented at \$920/month. Call DeAnna Larson 481-0936. 436-5250 Spencer's.

For sale—"Rare find!" Over 1,800 sq. ft., close to University. Only \$109,000. Call DeAnna Larson 481-0936, 436-5250. Spencer's.

For rent—One bedroom, basement suite. Clean, bright. Ideal student. Near University.

References. Available immediately. 436-0365. For sale—Four bedroom, two storey, family home with another two bedrooms in basement. 2 1/2 bathrooms, double garage, quiet area, near Southgate. Spencer Real Estate. Kay Patterson 436-5250, 435-8003.

For sale—Prices slashed for quick sale. Windsor Park \$129,500 - Parkdale \$105,000 - Glenora \$84,500 - City Centre Condo \$75,000. Resi Richter 483-9432. A.E. LePage.

For rent—Immediately. Furnished, one bedroom suite. 10929-74 Ave. Nattalia 454-4796, 436-3050.

For sale—Four bedroom home. Two fireplaces, two bathrooms, keyhole crescent, large park-like lot, mature trees, excellent view. Must be seen. Ken Bush 458-2288, 458-0648. Block Bros.

For rent—Immediately. Executive, two storey home in Riverbend. Double garage. Furnished/unfurnished. 437-0609, 438-6337. Owner leaving for Great Britain, December.

Accommodations wanted

Wanted! Three bedroom home, quiet street (Belgravia). Up to \$120,000. DeAnna Larson 481-0936, 436-5250. Spencer's.

Rental Wanted—1,200+ sq. ft. (Ottewell, Holyrood, Gold Bar, Hardisty, etc.) For approximately six months—or "Rent to purchase." DeAnna Larson 481-0936, 436-5250. Spencer's.

Automobiles and others

1980 Chev Impala, four door, 305 V-8 automatic

transmission, PS., PB., vinyl roof, tan interior. 62,000 km. Mint condition. \$4,600. 484-1083.

Goods for sale

Unique, handwoven Christmas gifts. Open House sales 5 and 12 December, 1-5 p.m. Private showings by appointment. Custom orders taken until 12 Dec. Weaving by Dayna, 434-4407. 4002-120 St.

New Rockwell Beaver 9-inch table saw w/stand Evenings. 434-8237. \$300. Hammond organ \$1,200. Excellent condition. Evenings. 489-0668.

Services

Donnic Word Processing. Specializing in theses, manuscripts, 8315A-105 St. 432-1419.

Singing teacher, Eileen Turner 439-4661.

General Carpentry Work—Renovations, 434-9709 evenings.

Massage by licensed masseur 425-0527.

Professional typing—Quality work. Call Karen 458-5503.

Enjoy a "rice table." Excellent Indonesian cuisine.

Restaurant Indonesia 10169-112 Street. Inquiries and reservations 421-4291.

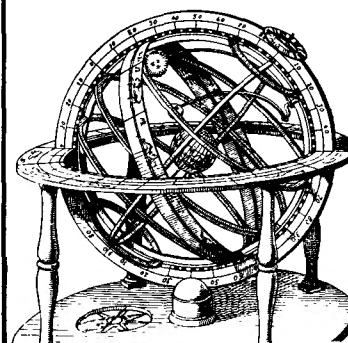
Ray Salt will show recent wildlife water colors at his home until early December. 439-0964.

Relief from backache, stress, tension. The Krieg Clinic provides specialized medical massage and chirogymnastic. Fully qualified and German trained. Gift certificates available. Maria Krieg C.P.H.T. 436-8059, 11627-75 Ave.

Windsor Park Co-operative Playschool has vacancies, weekday mornings, 433-8141, 439-9334

Will type term papers, theses, etc. \$1.25 per page. Catherine 922-4517.

SCHOLARLY BOOKS always in stock



BJARNE'S BOOKS
10005 - 82 Ave.
439-7133

A Tax Shelter To Build On:

Teachers' Home Ownership Savings Plan - only for educators & their spouses

Benefits:

- No investment minimum; no opening or closing charges;
- Earn an attractive rate of interest compounded monthly;
- Transfer funds directly from your Co-op savings account;
- Redeem your funds promptly (withdrawals processed weekly at your Co-op)

Call your Co-op today for a brochure and application form.

Contribution deadline: Dec. 31, 1982

Barnett House, 11010 - 142nd St. Edmonton, Alberta
T5N 2R1 Telephone **453-3902**

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TIME-SAVER BANKING Available with COMMERCE INSTANT TELLER (2 Machines) Located at the

*Cameron Library Walkway
Central Academic Building*

Hours of Operation - Normal Building Hours

*Central Academic Building
or*

Cameron Library Entrances

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NOTE - Accounts at any branch of The Commerce can be programmed for Instant Teller

Applications available at our branch in the Student Union Building and all other Commerce Branches.

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now have access to a very
comprehensive consumer
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PAMPHLETS • WORKSHOPS & INSERVICES**

Monday, Wednesday to Friday
8:15 a.m. - 4:30 p.m.
Tuesday 8:15 a.m. - 9:00 p.m.
11044 - 82 Ave., Main Floor, Edmonton
Alberta T6G 0T2 (403) 427-5215

Alberta
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CORPORATE AFFAIRS